

[002] FIELD OF THE INVENTION

[004] BACKGROUND OF THE INVENTION

[012] According to the invention this problem is solved by a shifting element system having the features of claim 1. Other advantageous developments and improvements result from the sub-claims.

[013] SUMMARY OF THE INVENTION

[019] BRIEF DESCRIPTION OF THE DRAWING

[020] Herebelow the invention will now be explained in detail described, by way of example, with reference to the accompanying drawings in which:

[021] Fig. 1 is a sectional drawing of a shifting element system given by way of example in the sole figure and having two multi-disc brakes and one free wheel functionally coordinated with the first multi-disc brake.

[022] DETAILED DESCRIPTION OF THE INVENTION

1-22. (CANCELED)

23. (NEW) A shifting element system for a transmission comprising at least one first shifting element (10) and a free wheel (20) in which an input element of the free wheel (20) is mechanically coupled with one input element of the first shifting element (10) and in which one output element of the free wheel (20) is non-torsionally connected with one output element of the first shifting element (10);

wherein the input and output elements of the first shifting element (10), discs (17) of the first shifting element (10), the free wheel (20) and the input and the output elements of the free wheel (20) form a pre-assemblable unit, and a free-wheel sprag unit (27) of the free wheel (20) has one bent elastic holding device (28) by which the input element of the free wheel (20), both during and after assembly of the pre-assembled unit in the transmission, is axially movably fixed opposite the output element of the first shifting element (10).

24. (NEW) The shifting element system according to claim 23, wherein the free wheel (20) is disposed, in an axial direction, adjacent the discs (17) of the first shifting element (10), a disc-shaped ledge (15) of the output element of the first shifting element (10) is situated between the discs (17) of the first shifting element (10) and the output element of the free wheel (20), the discs (17) of the first shifting element (10) directly abut against a first front face of the disc-shaped ledge (15) and support themselves during actuation of the first shifting element (10) in the axial direction, the output element of the free wheel (20) directly abuts against a second front face of the disc-shaped ledge (15) in the axial direction.

25. (NEW) The shifting element system according to claim 23, wherein the unit comprises the input and output elements of the first shifting element (10), the discs (17) of the first shifting element (10), the free wheel (20) and the input and output elements of the free wheel (20) has in addition discs (32, 33, 34) of the second shifting element (30) which abut axially against the output element of the free wheel (20), on a side of the free wheel (20) remote from the discs (17) of the first shifting element (10).

26. (NEW) The shifting element system according to claim 23, wherein one of the free-wheel sprag unit (27) and the holding device (28) of the free-wheel sprag unit (27) is axially fixed to the output element of the first shifting element (10).

27. (NEW) The shifting element system according to claim 26, wherein one of the free-wheel sprag unit (27) and the holding device (28) of the free-wheel sprag unit (27) is axially fixed between the discs (17) of the first shifting element (10) and the output element of the free wheel (20).

28. (NEW) The shifting element system according to claim 23, wherein the bent elastic holding device (28) is a snap-on spring.

29. (NEW) The shifting element system according to claim 23, wherein the free-wheel sprag unit (27) of the free wheel (20) and the bent elastic holding device (28) form a one piece component.

30. (NEW) The shifting element system according to claim 23, wherein the bent elastic holding device (28) is part of a spacer by which the clamping elements of the free wheel (20) are passed into the free-wheel sprag unit (27).

31. (NEW) The shifting element system according to claim 23, wherein the input element of the first shifting element (10) and the input element of the free wheel (20) form a one piece component.

32. (NEW) The shifting element system according to claim 31, wherein the bent elastic holding device (28), in an assembled state, axially movably engages with a radial rear section (29) of the input element of the free wheel (20) which extends axially between a multi-disc toothing (12) of the input element of the first shifting element (10) and a tread (22) of the clamping elements of the free wheel (20).

33. (NEW) The shifting element system according to claim 23, wherein the output element of the free wheel (20) is axially fixed to the output element of the first shifting element (10).

34. (NEW) The shifting element system according to claim 33, wherein the output element of the free wheel (20) has a circular groove (24) in which a locking element, for axial fixing of the output element of the free wheel (20), engages.

35. (NEW) The shifting element system according to claim 33, wherein the locking element is one of a locking pin (25), a bolt and a key.

36. (NEW) The shifting element system according to claim 25, wherein the output element of the first shifting element (10) has a gearing (16) in which the output element of the free wheel (20) and discs (33, 34) of the second shifting element (30) engage with a positive fit.

37. (NEW) The shifting element system according to claim 25, wherein a hydraulic reset device (36), for the second shifting element (30), is at least partly integrated in the output element of the first shifting element (10).

38. (NEW) The shifting element system according to claim 23, wherein a hydraulic reset device (19), for the first shifting element (20), is at least partly integrated in the output element of the first shifting element (10).

39. (NEW) The shifting element system according to claim 23, wherein the input element of the first shifting element (10) is an inner disc carrier (11), the output element of the first shifting element (10) is an outer disc carrier (13), the input element of the free wheel (20) is a free-wheel inner ring (21) and the output element of the free wheel (20) is a free-wheel outer ring (23).

40. (NEW) The shifting element system according to claim 23, wherein the input element of the first shifting element (10) is an outer disc carrier (13), the output element of the first shifting element (10) is an input disc carrier, the input element of the free wheel (20) is a free-wheel outer ring (23) and the output element of the free wheel (20) is a free-wheel inner ring (21).

41. (NEW) The shifting element system according to claim 23, wherein the first shifting element (10) is a multi-disc brake, and the pre-assembled unit is being insertable as a whole within a transmission housing (1).

42. (NEW) The shifting element system according to claim 23, wherein the first shifting element (10) is a multi-disc clutch.

43. (NEW) The shifting element system according to claim 23, wherein the free wheel (20) is a roller free wheel.

44. (NEW) The shifting element system according to claim 23, wherein the free wheel (20) is a clamping body free wheel.